

REMARKS

Claims 1-12 are pending in this application. By this Amendment, claims 1-6 and 9-11 are amended.

Claims 1-12 were rejected under 35 U.S.C. §112, first paragraph. The rejection is respectfully traversed.

Claims 1, 9, 11 and 12 were rejected for using the term "tact time." The term "tact time" refers to the sum of actual working time and idle time for each working station of a system. This interpretation is used consistently throughout the specification. For example, paragraph [0076] states "the idle time obtained by subtracting an actual required time from the tact time corresponding to each tact can be known for each working station," and paragraph [0056] states "the second molding carriage 22 on which the toroidal molding drum 21 is loaded repeats clockwise movement to each working station such as from the working station F1 to F2 at a predetermined tact time." Further, claim 1 has been amended to clearly define tact time. Therefore one of ordinary skill in the art would understand the term "tact time."

Claim 10 was rejected for lack of support in the specification. Applicants respectfully assert that support for claim 10 can be found at least at paragraphs [0064] - [0065].

It is respectfully requested that the rejections be withdrawn.

Claims 1-12 were rejected under 35 U.S.C. §112, second paragraph. The rejection is respectfully traversed.

Claim 1 was rejected because it was unclear whether lines 2-6 were positive requirements of the claimed process or whether lines 2-6 were merely part of the preamble. Claim 1 has been amended to clarify which portions of the claim constitute a preamble and which portions constitute positive requirements.

Claim 1 was rejected for use of the term "tact" time. Claims 9, 11 and 12 were similarly rejected. As discussed above, tact time is a term of art which is unambiguous to one of ordinary skill in the art upon reading the specification.

Claim 1 was rejected for being unclear as to whether a single tire was being molded or multiple tires were being molded. Claim 1 calls for at least two combinations of green tires in different sizes chosen from said group of sizes. Applicants respectfully assert that at least two green tires are called for in claim 1.

Claim 1 was rejected for an alleged ambiguity caused by "toroidal drum" being following by "toroidally extending" the carcass because the drum is allegedly in its toroidal shape when the carcass band is disposed thereon. Applicants respectfully disagree. Applicants respectfully assert that a drum can be in a toroidal shape and subsequently expanded to be a larger toroidal shape. Therefore, toroidally extending is not ambiguous.

Claim 3 was rejected for an improper antecedent basis for "said working station." Claim 3 has been amended to conform to the proper antecedent basis for working stations.

Claim 10 was rejected for alleged ambiguities related to a lack of detailed description of the estimate equation and its use, and for being unclear as to whether additional tires must be built. Claim 10 calls for a first green tire and claim 10 calls for a subsequent tire of the same size as said first tire. Applicants respectfully assert that claim 10 clearly calls for more than one tire. Further, as discussed above, Applicants respectfully assert that the specification contains adequate support for the estimate equation.

Therefore, it is respectfully requested that the rejections be withdrawn.

Claims 1, 3-5, 7 and 8 were rejected under 35 U.S.C. §102(b) over Okada et al., U.S. Patent Application Publication No. 2001/0002608. The rejection is respectfully traversed.

Claim 1 calls for repeatedly moving the toroidal molding drum between stations of a molding system having a plurality of working stations at a predetermined tact time.

Applicants respectfully assert that Okada fails to disclose these features.

The Office Action alleges, on page 5, that Okada's shaping drum 24 corresponds to the toroidal molding drum of claim 1. However, Okada's shaping drum 24 does not move between stations. Okada's shaping drum 24 is part of a shape forming machine 20. Although the shape forming machine 20 is on rails and can move, the shaping drum 24 does not move from the shape forming machine 20. Consequently, Okada fails to disclose repeatedly moving the toroidal molding drum between stations of a molding system having a plurality of working stations.

Further, nothing in Okada can reasonably be interpreted as teaching or suggesting the tact time of claim 1. Thus Okada fails to teach or suggest repeatedly moving the toroidal molding drum between stations of a molding system having a plurality of working stations at a predetermined tact time.

Claim 1 also calls for molding a green tire based on tire component members specified in advance and a sequence specified in advance, wherein the members and the sequence include at least two combinations of green tires in different sizes chosen from said group of sizes. Applicants respectfully assert that Okada fails to disclose these features

Further, Okada teaches that a stage switchover can be performed instantaneously so long as the tires have the same bead inner diameter (see paragraph [0069]). This clearly suggests that there cannot be an instantaneous switchover with tires of different bead inner diameter. However, Applicants' invention allows sequential molding of tires of at least two different sizes. That is, Applicants' invention can mold tires of different diameters sequentially.

Claims 3-5, 7 and 8 depend from, and are patentable with, independent claim 1, as well as for the additional features they recite. Therefore, it is respectfully requested that the rejection be withdrawn.

Claims 9, 11 and 12 were rejected under 35 U.S.C. §102(b) or 35 U.S.C. §103(a) over Okada. The rejection is respectfully traversed.

As noted above, Okada fails to disclose all of the features of independent claim 1. Claims 9, 11 and 12 depend from, and are patentable with, independent claim 1. Therefore, it is respectfully requested that the rejection be withdrawn.

Claims 1, 3-5, 7-9, 11 and 12 were rejected under 35 U.S.C. §103(a) over Yamakawa et al., European Patent Application Publication No. 0 448 407 A2, in view of Okada. The rejection is respectfully traversed.

Claim 1 calls for repeatedly moving the toroidal molding drum between stations of a molding system having a plurality of working stations at a predetermined tact time. Claim 1 also calls for molding a green tire based on tire component members specified in advance and a sequence specified in advance, wherein the members and the sequence include at least two combinations of green tires in different sizes chosen from said group of sizes. Applicants respectfully assert that neither Yamakawa nor Okada disclose these features.

Okada fails to disclose these features for the reasons discussed above.

Yamakawa also fails to disclose these features. There is no discussion of times in Yamakawa. That is, one of ordinary skill in the art cannot reasonably interpret Yamakawa as teaching or suggesting tact times when no time what so ever is discussed. Therefore, one of ordinary skill in the art could not reasonably interpret Yamakawa as teaching or suggesting that toroidal molding drums are moved at predetermined tact times.

Further, Yamakawa fails to disclose sequential molding of tires of at least two different sizes. Yamakawa discloses using drums of different sizes for different size tires (see

col. 4, lines 53-56). However, nothing in Yamakawa teaches or suggests that different tire sizes are used sequentially. In fact, Yamakawa teaches that rims are re-ordered ("exchanged in accordance rim sizes") to manufacture the same size of tire in succession. Consequently, Yamakawa fails to disclose all of the features of claim 1.

Claims 3-5, 7-9, 11 and 12 depend from, and are patentable with, independent claim 1, as well as for the additional features they recite. Therefore, it is respectfully requested that the rejection be withdrawn.

Claim 2 was rejected under 35 U.S.C. §103(a) over Okada (or Yamakawa in view of Okada) in view of Akiyama, U.S. Patent No. 6,475,319 or Ikeda et al., U.S. Patent Application Publication No. 2002/0074077. Claim 6 was rejected under 35 U.S.C. §103(a) over Okada (or Yamakawa in view of Okada) in view of Senbokuya et al., U.S. Patent No. 6,616,783. The rejections are respectfully traversed.

The rejection of claims 2 and 6 are premised upon either Okada or Yamakawa in view of Okada disclosing all of the features of claim 1. As discussed above, neither Okada nor Yamakawa in view of Okada disclose all of the features of claim 1. Further, neither Akiyama, Ikeda nor Senbokuya overcome the deficiencies of Okada and Yamakawa. Therefore, it is respectfully requested that the rejections be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:SDJ/mcp

Attachment:
Petition for Extension of Time

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